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LUMINARY Memo #176

To: Distribution
From: D. Densmore
Date: 14 October 1970
Subject: LUMINARY Revision 183

Revision 183 incorporated PCR 317.2, completed implementation of PCR 324, implemented L-1D-02 and ACB L-26, and cleaned up cusses and keypunch errors from Rev. 182.

1) PCR 317.2 (Rescaling nouns containing range and range rate).

Nouns 49 and 78 were rescaled. N49 (R1) was changed from XXXX.X to XXX.XX nautical miles. N78 (R2) was changed from XXXXX, feet per second to XXXX.X. (a) Comment tables in the Assembly and Operations log section were updated. (b) Noun table entries were fixed. (c) N78 R2 was rescaled in the Pinball Game coding by multiplying the data itself (range rate) by ten rather than multiplying the scale factor because the scale factor would have then been too large. (d) Extended verb routine DSPRRLOS was moved from Bank 40 to Bank 41 to make room for the additional coding to implement (c) above. DSPRRLOS is called with a POSTJUMP from Bank 43.

2) PCR 324 (PGNCS/AGS RR data transfer).

The definition of the erasable AGSCODE was inadvertantly left out of the previous revision. It is defined in an unswitched, unshared location.

3) Anomaly L-1D-02 (LGYRO not zeroed if pulse torquing ends due to cage or coarse align; subsequent jobs attempting torquing will stack up via JOBSLEEP).

[Item (3) continued]

ACB L-26 (Insert check for coarse align before attempting gyro torquing).

- a) Additional checks for coarse align and cage were inserted before attempting gyro torquing.
- b) A little routine DONTPULS was written to zero LGYRO and wake up any sleeping gyro torquing request before falling into BADEND.
- c) New cage test and coarse align test routines were written which go through (b) above.
- d) Routine CHECKYAW in Ascent Guidance was moved from Bank 7 into Bank 23 along with constant 40FPS. Altogether 16 words were moved. This was to make room for changes (a) -(c) above. CHECKYAW is called once, in interpretive, from Bank 30. 40FPS is referenced only by CHECKYAW.

The following section of the GSOP should be examined for impact:

Section 4 - item 3